

## EXHIBIT 437



**Incidents of Gray Market Activity among U.S. Exporters: Occurrences, Characteristics, and Consequences**

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*Journal of International Business Studies*, Vol. 30, No. 1. (1st Qtr., 1999), pp. 105-126.

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# *Incidents of Gray Market Activity Among U.S. Exporters: Occurrences, Characteristics, and Consequences*

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*Each year, the value of gray market products sold throughout the world runs into the billions of dollars. Past research has stated that exporters of manufactured goods can hardly afford to ignore the possibility of this phenomenon due to the often severe effects on their sales volume, margins, and relationships with distributors and end-users. Through a survey of export managers of manufacturing firms, coupled with a series of qualitative interviews, this study investigates how organizational specific, control specific, and market specific factors drive gray market activity, and in turn explores the effects of unauthorized distribution on export performance.*

*Several factors are shown to evaluate the potential of unauthorized distribution in their export markets, namely the centralization of decision making, the degree to which the product is standardized, channel integration, and channel control. International experience, market volatility, and the number of markets served were found to have no effect on gray market activity, this contrary to traditional thinking. Furthermore, the effects of gray market activity on strategic versus economic performance is shown to be significantly different. Each of these issues is discussed in detail, along with the implications for export managers.*

## INTRODUCTION

**W**ith an increasing acceptance of exporting as a market expansion strategy by U.S. manufacturers, there

come a variety of concerns which potentially enhance prohibitive transaction costs associated with export activity. As managers experience increased pressures to sell their products overseas, they often

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The author gratefully acknowledges the helpful comments of Professors S. Tamer Cavusgil, Preet Aulakh, Michael Harvey, the editor and three anonymous *JIBS* reviewers on this manuscript. The usual disclaimers apply.

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encounter problematic phenomena not present in their domestic markets. While a number of different issues emerge in international trade that purely domestic firms are not exposed to, one topic that continuously arises is that of gray market imports, which are defined as genuinely branded merchandise distinguished only by their sale through unauthorized channels by intermediaries other than the trademark owner (Bucklin, 1993). Less formally, gray markets have been described as the unauthorized imports of goods into a market, and their sale at a price less than that offered by authorized distributors. Gray marketers are generally brokers who buy goods in an alternative market where there is a price advantage, either from a manufacturer or an authorized dealer, and import them into a country where prevailing prices are higher (Cavusgil and Sikora, 1988). Gray market importing can take several different forms, yet their effects are generally the same, namely, reduced or cannibalized sales for the manufacturer in countries where prices are higher, and jeopardized relationships with authorized distributors who possess contractual rights for their markets (Assmus and Weise, 1995). Research indicates that the value of gray market products sold throughout the world is valued at billions of dollars annually (Cespedes, Corey and Rangan, 1988), and is expected to increase as the number of export operations increases. As global product availability is enhanced and the cost of price information in different markets decreases, unauthorized distribution will continue to be a problem for exporters.

The problems associated with gray market imports include ineffective pricing policies, deteriorated distributor relationships, low sales force morale, poor customer service, and ambiguous mea-

surements used to evaluate employee performance (Cespedes et al., 1988). Often, the various functional areas within the firm view the problems very differently. Specifically, four separate aspects of business have been identified as being detrimentally affected by gray market activity (Cavusgil and Sikora, 1988). The first, erosion of trademark image, occurs when the esteem at which products, especially prestige products, are held is reduced due to the discounted price at which unauthorized distributors sell them. Second, the relationships between manufacturers and dealers can become strained due to profits going to unauthorized distributors rather than contracted middlemen. Manufacturers may still make profits from gray market imports, particularly if a market segment is being serviced that was not serviced through formal distribution. However, authorized dealers do not benefit from this action whatsoever, causing a significant amount of acrimony between manufacturers and distributors (Assmus and Weise, 1995). Third, legal liabilities can damage a manufacturer, because unauthorized imports are often not made to the import markets' safety or local content specifications. Fourth, marketing strategy and profits can be disrupted, since forecasting and pricing decisions become increasingly complex when sales and market data are inaccurate due to unknown distribution and sales patterns.

Gray markets are believed to thrive for a variety of reasons, many of which are out of the control of the exporter. These factors include wide spreads in effective prices between markets, and information exchange, which has become increasingly affordable and allows distributors to take advantage of arbitrage situations between markets (Assmus and Weise, 1995; Duhan and Sheffet, 1988). Sophistication

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of price information accumulation has also increased, allowing gray marketers to monitor prices worldwide on a day-to-day basis (Myers, 1997a). Sometimes, however, exporters take advantage of gray markets in order to increase sales, and a number of studies (e.g., Dana, 1998; Vickers, 1997; Kuhn, 1998; Danzon, 1997) show how suppliers enhance performance by providing different distributors with products at widely differentiated prices, thereby creating the opportunity for gray markets. Recently, this discriminatory pricing has been found to exist in the pharmaceutical, cosmetic, and health care industries, and can damage supplier-distributor relationships as effectively as those factors not directly associated with export pricing, particularly with those buyers who discover they have been "over-priced."

Within the international literature there are a number of studies concerning gray market imports which are either prescriptive or descriptive in nature. The purpose of this paper is to identify the factors that are important in understanding the gray market environment by establishing relationships between variables which are both internal and external to the firm and gray market activity, enhancing our ability to predict gray market activity within the firm's export operations. The remainder of the paper is structured as follows: First, a discussion of organizational specific, control specific, and market specific factors, and their relevance to gray market activity is offered. Next, research hypotheses are developed through the support of the existing literature. Third, data collection and analysis procedures are discussed with subsequent results of the hypotheses testing. Finally, a discussion of the findings along with theoretical and managerial implications are offered.

#### PROFILE OF TYPICAL MANUFACTURERS AND ANTECEDENTS OF GRAY MARKET ACTIVITY

While managers have been warned for years of the existence of gray market activity, they often have been slow to respond to these threats (Cavusgil and Sikora, 1988). Simply, managers have at their option either proactive or reactive measures to combat gray market conditions. Proactive measures, however, to some degree rely on identifying potentially problematic market conditions before unauthorized distribution takes place. While studies have identified a number of market and industry specific environments where gray market activity detrimentally affects exporters' profitability, these environments are dynamic and certainly are subject to change as economic and competitive forces within the market shift. During preliminary interviews conducted for this study, several managers stated that they had been operating in their export markets for years before gray marketers entered their competitive circles, while others stated that they had once been troubled by unauthorized distribution problems, but shifting market conditions had alleviated those effects.

Based on a review of the literature, three strategic dimensions representing antecedents relative to gray market activity are identified. These sets of situationally specific factors capture the issues critical to understanding unauthorized imports, namely, control specific, organizational specific, and market specific factors. Organizational factors address the skills, capabilities and assets of the firm. These encapsulate international involvement and experience (Douglas and Craig, 1989; Terpstra, 1987), product characteristics (Cooper and Kleinschmidt, 1986), as well as other aspects which deal with

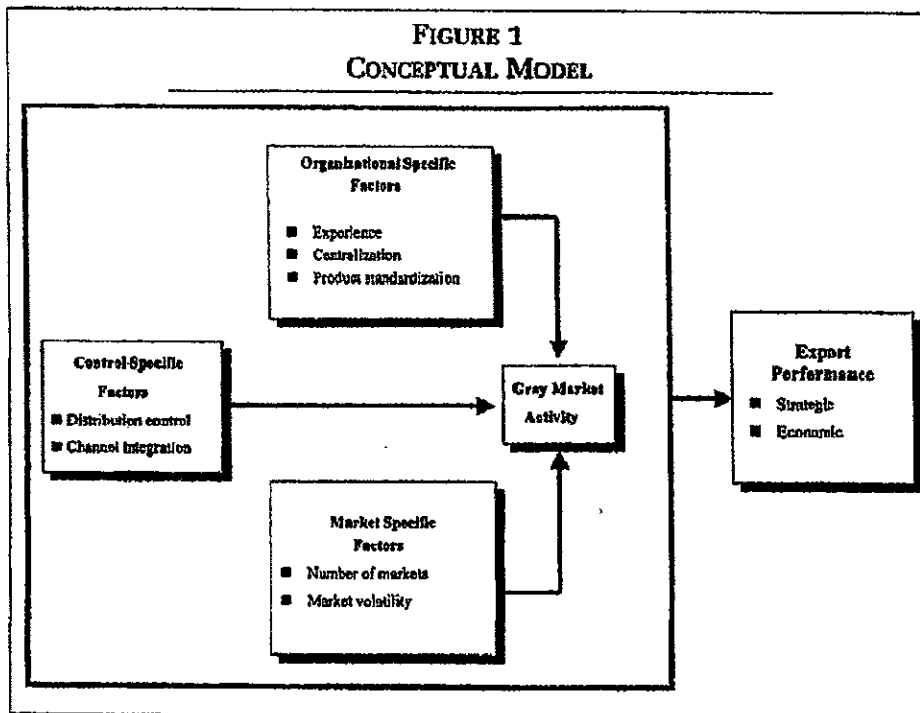
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the firm's capability to manage its skills and resources. According to Aulakh and Kotabe (1997), the organizational capabilities perspective states that firms are restricted in their structural and experiential capabilities to perform all operations in different markets by themselves. Distribution in these markets is affected by international experience of the firm (Johanson and Vahlne, 1987), as well as by the centralization of decision making within the organizational framework (Cavusgil and Zou, 1994). Similarly, product adaptation as a strategy to meet market demands creates special problems for standardization of distribution channels (Gatignon and Anderson, 1988). Therefore, three variables: international experience, centralization of decision making, and product standardization comprise the organizational specific dimension. Control specific fac-

tors include distribution control and integration of the channel. This is differentiated from organizational factors in that exchange mechanisms between manufacturer and distributor are in place which involve transaction costs; this, in turn, assumes the behavior of self-interest and bounded rationality of parties involved in the manufacturer-distributor relationship (Williamson, 1975). Here, an interfirm task environment exists that involves aspects of the exchange process, and requires the participation of trading partners (Jaworski, 1988). This can be a bilateral or unilateral action.

Industrial organization theorists posit that international market entry strategies are dependent to a significant degree on situational variables in dynamic environments, and that this in turn affects performance (Scherer and Ross, 1990). Dynamism of export markets leads to an

FIGURE 1  
CONCEPTUAL MODEL



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inability by the firm to anticipate contingencies which create difficulties in coordinating relationships between channel partners (Bello and Gilliland, 1997). Changing environments offer opportunities for middlemen to act outside of traditional relationships (e.g., Anderson and Gatignon, 1986), and the number of markets served by the exporter will add to this dynamism. Thus, the dimension of market specific factors includes market volatility and the number of markets served by the exporter, these seen as uncontrollable external variables, or prioritive to the profit oriented firm.

It is worthwhile, therefore, to investigate internal, external, and control focused characteristics of the export venture in an effort to identify environments that are common across gray market regions. Based on these perspectives, Figure 1 is offered as a conceptual framework for testing the relationships and determining linkages between these sets of predictor variables and gray market activity, and in turn between gray market activity and export performance. In the following section hypotheses are developed based on extant literature, which define the relationships between these entities.<sup>1</sup>

## RESEARCH HYPOTHESES

### *Control Specific Factors*

#### *Distribution Control*

Technological change, heightened marketplace demands, aggressive global competition, and demographic shifts are forcing companies to reconsider fundamental assumptions regarding their distribution channels (Anderson, Day and Rangan, 1997). One of the major issues of concern is that of channel coordination mechanisms, e.g., those actions that control the flow of goods and empower the

manufacturer to place and price the goods as desired within the export market. Control in export channels can be unilateral, which are specific, manufacturer-initiated directives aimed at influencing foreign distributors to perform marketing actions in ways that support manufacturer objectives (Sachdev, Bello and Pilling, 1994). According to Bello and Gilliland (1997), control theorists distinguish between two types of controls: Process controls, or those influencing the means or behaviors distributors use to achieve desirable ends; and output controls, which influence directly the ends achieved by the distributor (see Jaworski, Stathakopoulos and Krishnan, 1993; Ouchi and Maguire, 1975). Control over two decision variables, distribution and price, are particularly relevant in discussing gray market imports, since (i) price fluctuations in the markets have been identified as a drivers of gray market activity (e.g., Assmus and Wiese, 1995); and (ii) it is the distribution by unauthorized agents which defines gray market importing. Day-to-day price management involves tactical moves that allow the firm to combat anomalies, such as price margins across markets. Coordination of prices is only possible through the control of those prices in the distribution channel. This is particularly true if the firm maintains a presence in economically diverse markets where price margins tempt unauthorized sellers. Exporters attempting to coordinate prices across markets in order to curtail parallel imports need control of the purchase price, as opposed to conceding that control to distributors with separate objectives. Firms can coordinate prices in a variety of manners, including the use of economic measures, centralization of the pricing decision, and formalization or standardization of pricing decisions



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[Assmus and Wiese, 1995]. However, coordination of prices is dependent on the degree of control that the exporter has over the *final* price of the product. Without this control efforts to reduce inter-market price margins by the exporter can only be limited in scope. More generally, control over the distributor's market behavior, either through contractual arrangements or threats of future repercussions, will decrease unauthorized leakage of products outside of predetermined distribution arrangements. Hence:

H1: The greater the degree of distribution control by the exporter, the lower the degree of gray market activity in the export market.

**Channel Integration**

One method of coordinating merchandise flows through the channel is by vertical integration, which brings stages of the channel under common ownership and control (Buzzell and Ortmeyer, 1995). Separate ownership and profit claims of the manufacturer and distributor can lead to conflict within the channel (Cavusgil and Zou, 1994), with often disparate goals between exporter and distributor regarding such issues as profit, sales volume, and long term commitment to the customer. Therefore, the degree of channel integration is a critical decision for the exporter. The firm can choose to integrate forward and perform all the distribution functions itself, can choose not to perform any of these functions and contract the tasks to independent distributors who find buyers for the exports, or select an intermediate option, such as commission agents or some sort of distributive partnership with another firm (see, Aulakh and Kotabe, 1997). These different choices of levels of inte-

gration provide varying degrees of control within the export channel. Should a firm operate a wholly owned subsidiary in the export market, it would enjoy the greatest amount of control over the distribution process. Involving captive commission agents or joint venture partnerships provides exporters with a share of control over the distribution functions in the foreign market with their respective partners (Aulakh and Kotabe, 1997; Root, 1994). The use of independent intermediaries, however, provides little or no control to the exporter, since no restrictive process is in place to prevent them for offering products outside of authorized relationships. This provides the climate for gray market imports.<sup>2</sup> Therefore:

H2: The lower the degree of channel integration, the higher the degree of gray market activity in the export market.

**Organizational Specific Factors<sup>3</sup>****International Experience**

The degree to which the exporting firm has worked in international operations, and how long management has been exposed to particular overseas markets will influence the internal capabilities of the firm to respond to gray market activity. More experienced firms realize the complexity of export operations, and traditionally this experience has been linked with effective export operations (Kirpalani and MacIntosh, 1980). Identification of either existing or potential gray market activity by inexperienced firms is difficult in part due to (i) an inability to accurately assess partner performance by readily available output measures (Aulakh and Kotabe, 1997, Anderson and Gatignon, 1986), and (ii) an unfamiliarity with export market



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channel structures and their underlying distributor-customer relationships. More experienced exporters will benefit from an ability to diagnose symptoms of unauthorized distribution within particular markets, as well as from an understanding of reactive and proactive strategies that combat gray market activity when identified. As a result, it is hypothesized that:

**H3:** The greater the degree of international experience of the exporter, the less the degree of gray market activity in the export market.

#### **Centralization of Managerial Decision Making**

Centralization of managerial decision making is defined as the degree that upper-level management makes decisions regarding the export market. Since the foreign distributor is a vital link between manufacturer and export customers (Cavusgil and Zou, 1994; Rossen and Ford, 1982), upper-level management's participation in export venture decisions will enhance the amount of resources and awareness necessary to proactively reduce and identify gray market actions in the market. The proactive techniques utilized by firms and described by Cavusgil and Sikora (1988) are often complex and mandate a commitment by upper-level managers regarding strategic shifts to counter or prevent unauthorized imports. In qualitative interviews with export managers, it was evident that gray market activity affected their operations to varying degrees over a period of time. Periods of relative inactivity were often followed by frantic unauthorized distribution, this by gray marketers trying to take advantage of short time windows where market price margins existed. Managerial decision

makers responsible for multiple markets and understanding the underlying cost structures of all export ventures (and therefore price margins between markets) will be more likely to dedicate the necessary efforts to combat or prevent gray market distribution of their goods in rapidly changing environments. Furthermore, centralization, when measured by the degree to which upper-level managers dominate the decision-making process, has been shown to increase the effectiveness of price coordination in the marketplace by increasing the frequency of price reviews by managers (Myers, 1997b). This identifies over or under priced goods before price margins grow to levels that invite gray market activity. Therefore:

**H4:** The greater the degree of centralization of managerial decision making in the export venture, the less the degree of gray market activity in the export market.

#### **Standardization of Export Products**

The degree to which a product is standardized or adapted for sale in overseas markets significantly affects whether that product becomes a gray market candidate (Cavusgil and Sikora, 1988). Intuitively, many believe that the more standardized a manufacturing product is, the better it will flow across borders for usage in a variety of conditions, and that gray markets are driven simply on price differentials or availability considerations between those markets. However, preliminary interviews indicated that adaptation of individual products for specific markets lead to substantially more cross-border demand. This occurs for two reasons. First, the margin in prices caused by a simple or stripped product in one market compared to a

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modified or enhanced product in another activates unauthorized distribution. Either the user of this product is willing to pay for the enhanced model not available in his market, or he is unwilling to pay for the product with too many refinements and imports the simpler, less expensive version from an unauthorized distributor. Second, and counter to arguments regarding homogenization of customer demands, buyers will often seek modified or differentiated product versions in other markets with little regard to price considerations. In short, if the exporter is not offering the customer exactly what he or she wants, and the product exists elsewhere, the environment exists for gray markets.

**H5:** The greater the degree of product standardization, the less the degree of gray market activity in the export market.

### *Market Specific Factors*

#### **Number of Markets Served by the Exporter**

Saturation of domestic markets and reduced margins of products and product lines press firms to expand overseas (Porter, 1986). Given these pressures, an increasing number of firms conduct export operations in multiple overseas ventures. As exporters expand their influence across a variety of markets, they find their products widely dispersed, adapted, and often unevenly priced. Concurrently, the types of market regulations across export ventures can be eclectic. Economic diversity between markets served, and the subsequent variations in inflation rates, foreign currency valuations, and purchasing power indices will provide ample opportunity for gray marketers to take advantage of arbitrage situations between markets

(Knetter, 1994). As a result, the more markets that the exporter services globally, the higher the risk for gray market distribution of their products.

**H6:** The larger the number of export markets served by the firm, the greater the degree of gray market activity in the export market.

#### **Export Market Volatility**

Discontinuity or unpredictability of the economic environment of the export market affects the activity of the internationally active firm (Genc Turk and Aulakh, 1995). Market volatility creates managerial problems for all members of the exchange transaction (Achrol and Stern, 1988), and these problems are more severe in cross-border operations, often due to lack of existing norms among culturally diverse parties (Bello and Gilliland, 1997; Gulliver, 1979). Of particular concern to the gray market discussion are those economic factors, such as foreign currency exchange fluctuations and market inflation rates, which influence export product prices and create margins between those prices and those of neighboring markets.

The effects of foreign currency volatility, especially on price margins, is one area consistently identified as a problem for exporters (see, Kublin, 1990; Koh and Robicheaux, 1988). Gray markets can flourish because of fluctuations in exchange rates, which cause products to become more expensive in one country than in another (Assmus and Weise, 1995). Wide margins in prices of a product between adjacent countries will tempt distributors in low price Country A to cross borders and sell in high price Country B. Inflation rates also significantly affect the purchasing power of buyers, and often gray marketers will

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take advantage of increased purchasing power of indigenous customers and their ability to purchase third market parallel imports. Thus, economic volatility in the form of foreign currency and inflation rate fluctuations will enhance opportunities for profitable unauthorized distribution:

H7: The greater the degree of export market volatility, the greater the degree of gray market activity in the export market.

#### **The Gray Market Activity-Export Performance Relationship**

Exporters of manufactured goods rely on distribution channels to deliver their products overseas. Firms rely on several critical assumptions in their export operations, including (i) that their products will be priced to provide sustainable margins; (ii) that the product will be of a specific quality when it reaches the buyer; (iii) that trademark and brand image will not be jeopardized by unauthorized distribution; (iv) that customers will receive proper post-purchase services; (v) that authorized distributors will receive proper compensation and that contractual arrangements with these distributors will be upheld; and (vi) that the exporter will in turn receive proper compensation for all products sold. Only when these general assumptions are met will the export performance expectations of the firm be fulfilled. A critical question, then, is when, and under what conditions, do gray market imports affect export performance?

Established, authorized channels alone are not the sole method that products meet buyers. Assmus and Wiese (1995, p. 4) state that firms will accept a certain amount of leakage via unauthorized channels if this leads to incremen-

tal profits without damaging relationships with distributors and/or customers. Hence, performance should be viewed in two distinct manners: (i) Strategic, where gray markets are seen as detrimental to distributor relationships and maintaining or gaining a foothold in the market, as well as supporting customers' post-purchase needs; and (ii) economic, which address the profit, ROI, and sales volume goals of the exporter. This distinction will lead to a more detailed understanding of the outcomes of gray market activity. Here, export performance is defined as the extent to which a firm's objectives with respect to exporting a product into a foreign market are achieved, and these objectives can be either economically oriented, or strategic in nature.

The unauthorized distribution of goods in export markets not only reduces the possibility of meeting the expectations of the exporting firm, but it also often damages the relationships between manufacturer and distributor. In highly competitive markets these relationships can be critical to an exporter's success, particularly in markets where the number of distributors is limited, or where traditional channels are in place to service domestic producers and where access is often denied, such as Japan. Gray markets which act as significant sub-channels of exported goods, from which the manufacturer receives little or no compensation or economic profit, represent a substantial transaction cost to exporting firms, this in a climate where transaction costs associated with exporting are already considered substantial (Aulakh and Kotabe, 1997). Therefore:

H8: High gray market activity in the export market is negatively related to both the strategic and economic export performance of the firm.

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## THE STUDY

*Data Collection*

This study sought to investigate managerial responses regarding unauthorized distribution effects on firms operating in multiple industries and exporting to a wide variety of country markets. This approach increased the generalizability of the findings, while at the same time focused on specific features of gray market activity. Following the research of Bonoma (1985) and Eisenhardt (1988), a series of twelve exploratory interviews were conducted with export managers from manufacturing firms in the upper Mid-west and upper-South regions of the United States in order to more accurately identify key issues in the gray market process. These preliminary interviews greatly assisted the development of a conceptual framework and subsequent survey design. Once the survey was developed, the instrument was pre-tested on several export managers and research scholars. Once their comments had been integrated into the survey, further questionnaire development followed the general guidelines of Dillman (1978).

Next, a mail survey was used to collect primary data directly from U.S. exporters. The sample frame was collected from the *Journal of Commerce Directory of United States Exporters*, which further identified the individual within the organization responsible for managing the export sale. Questionnaires were sent to these individuals, who included export managers, marketing managers, and international business directors within each firm. The firms chosen for the study were U.S. based exporters with overall sales of at least 10 million, with at least twenty percent of total sales coming from exports.<sup>4</sup> The mailings were limited to those firms

within the manufacturing S.I.C. codes, and avoided exporters of primary products and consumer goods, this in order to concentrate on market exchanges between mid- and upper level-value added chain members not restricted by governmental price regulations. 1,840 firms were contacted, and 404 firms responded, for a response rate of 21.9 percent. Subsequent to the accumulation of surveys, follow-up telephone calls were conducted to those managers indicating heavy gray market activity in their export markets.

Three dependent variables exist in this study: Gray market activity, strategic export performance, and economic export performance. Given that the majority of respondents exported to multiple markets, the unit of analysis in this study was at the product-market level. Managers were asked to respond according to *the most important product or product line in their most important export market*. This prevented over-generalization of responses, and permitted concentration on a single, critical export venture. In order to address many of the concerns regarding survey design research and self-reports by organization (Podsakoff and Organ, 1986), care was taken in the survey design and testing to consider both common method variance and non-response bias.<sup>5</sup>

**Operational Measures**

While a number of exporting studies were helpful in the operationalization of constructs, scales were not available for all constructs. Therefore, several scales were adapted for this research while others were developed in order to properly measure specific constructs. Except where noted, all measurements were 1-7 Likert scales. The complete scales are provided in the Appendix. Where units

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for the items were different, items were standardized before computing composite scales.

#### **International experience**

International experience was measured on a three-item scale following the use of Cavusgil and Zou (1994). Respondents were asked to state the number of years the firm had been conducting business overseas, the overall international experience of current management, and the number of years the firm had been operating in the specific export market (coefficient  $\alpha = .71$ ).

#### **Centralization of Managerial Decision Making**

In order to operationalize centralization, managers were questioned as to the extent of upper-level management's involvement in the export venture, where in the organization most decisions regarding export venture strategy are made, the extent of control by upper-level managers for the venture, and the degree of autonomy offered to low-level managers and sales force personnel (coefficient  $\alpha = .72$ ).

#### **Product Standardization**

The degree of product standardization was determined with one item, which questioned to what degree the product was standardized for the particular export market.

#### **Distribution Control**

In order to operationalize distribution control, it was important to capture two aspects which were hypothesized to affect gray market activity: Price control and control over physical distribution. In order to accomplish this, a four item scale was developed which determined the degree of price control in the chan-

nel, how often the product changes hands before reaching the buyer, whether the respondent felt too many middlemen were involved in the distribution process, and whether there was control over the time it took for the product to reach the buyer (coefficient  $\alpha = .70$ ).

#### **Channel Integration**

Channel integration was seen as whether the firm conducted the distribution tasks itself, with some degree of ownership or equity participation within the export market; this was considered highly integrated. Low integration was characterized as exporting with full reliance on agents and merchant distributors for distribution of goods. Channel integration is operationalized here as a categorical variable (see, Aulakh and Kotabe, 1997).

#### **Number of Markets Served**

Managers were asked to state the number of export markets where the product or product line was sold in worldwide.

#### **Market Volatility**

Market volatility refers to the degree to which economic forces shift inside of the export market. This was measured with a three item scale; respondents were asked to what degree the export market currency fluctuates relative to the U.S. dollar, how often changes in the currency rate cause the exporter to over- or under-price their product, and to what degree inflation rates in the export market fluctuate (coefficient  $\alpha = .68$ ).

#### **Gray Market Activity**

In order to ascertain gray market activity, exporters were asked whether unauthorized imports were a major problem for their products in the export market.



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Only those exporters who indicated significant gray market effects were considered influenced by high gray market activity. This is operationalized as a categorical variable. The study is centered around a cross-sectional view of exporting activity, and it was not meant to capture managerial views of the gray market effects on the products over time, since we were capturing the antecedents in a cross-sectional manner and in a single market. The concern was that gray market activity is dependent (to a certain extent) on multiple market conditions, and that, cognitively, managers would respond from the aspect of changing multiple market conditions over the life of the product in the market(s). This concern was discovered to be well founded during the preliminary interviews, as managers often responded in terms of historical activity, or activity in other markets. The idea was to restrict responses in order to avoid these types of influences, avoid confusing terminology, and be very specific in questioning in order to reduce or eliminate confounding scale items.<sup>6</sup>

#### Export Performance

A number of measures have been developed to measure export performance (Axinn, 1988). A firm usually initiates an export venture with a number of objectives, either economic, strategic, or both (Cavusgil and Zou, 1994). Therefore, it is important to determine what aspects of export performance are affected by unauthorized distribution. Hence, two performance constructs, both based on the extent to which the firm's specific objectives with respect to the export venture are achieved, are introduced. *Strategic performance* is measured with a four item scale: Managers were asked to respond to what degree

they met objectives in the areas of strategic expansion, distributor relationships, responding to competitive pressures, and gaining a foothold in the export market (coefficient  $\alpha = .74$ ). *Economic performance* was operationalized with a four item scale addressing achievement of sales volume, profit margin, ROI, and overall profitability goals (coefficient  $\alpha = .83$ ).

Table 1 indicates the characteristics and zero-order product moment correlations of the variables. With the exception of market volatility (coefficient  $\alpha = .68$ ) each of the multi-item scales exhibits reliability measures of .70 or higher. Upon development and examination of the scales, items were summed and averaged where appropriate to create composite scales.

#### Analyses

In order to evaluate the relationships in data that contains categorical variables, the logistic regression procedure with the ordered logit approach was utilized to analyze the data and test research hypotheses H1-H7. This follows the suggestions of Hosmer and Lemeshow (1989) among others, and allows us to evaluate categorical variables represented as either independent or dependent entities (Cohen and Cohen, 1983). An ordered logit model also allows us to analyze a common set of coefficients for the predictor variables (Masters, Allenby, Lalonde and Maltz, 1992). Hypothesis H8 was tested using MANOVA, and was designed to determine how active gray markets affect the economic and strategic export performance of the firm (Miller, 1991).

#### RESULTS

The results of the ordered logit model are shown in Table 2, where gray market



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**TABLE 1**  
**DESCRIPTIVE STATISTICS AND ZERO-ORDER PRODUCT MOMENT**  
**CORRELATIONS OF VARIABLES**

Variable	No. of Items	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. International experience	3	2.21	.71	(.71)								
2. Centralization of decisions	2	3.32	.81	-.03	(.72)							
3. Product standardization	1	2.45	.88	-.08	-.02	(n/a)						
4. Distribution control	4	4.22	.67	-.01	-.12	.12	(.70)					
5. Channel integration	5	2.15	.77	.16	.04	-.08	-.30*	(n/a)				
6. No. of markets	1	2.3	.65	.26**	.07	.04	.04	.02	(n/a)			
7. Market volatility	3	4.23	.60	-.08	.02	.11*	.20*	.02	.17*	(.68)		
8. Economic performance	4	4.01	2.59	-.05	-.14	.05	-.14	-.02	.05	-.01	(.83)	
9. Strategic performance	4	3.58	.61	-.07	-.03	-.05	.12	.12	.03	.07	.36*	(.74)

Numbers in parentheses on the diagonal are reliability estimates.  
 \*  $p < .05$  \*\*  $p < .01$

activity is the categorical dependent variable. Column one represents the hypothesized independent variable, while column two indicates the unstandardized coefficient. The model correctly classifies 82.5% of the observations, and the overall model is significant ( $p < .05$ ;  $X^2 = 16.575$ ,  $df = 7$ ). In testing hypotheses H1-H7, support is found for four relationships.

H1 states that the degree of distribution control will be negatively related to gray market activity, and this is supported in the results ( $b = .29$ ,  $p < .05$ ). Low channel integration (H2) was hypothesized to be negatively related to gray market activity, and this was strongly supported ( $b = 1.81$ ,  $p < .01$ ). Exporters have a number of choices regarding who they authorize to distribute their products within the overseas market, or they may choose to sell directly to the end

user themselves. The type of distributor they utilize will not only affect the efficiency within the market, but will also determine the control that the exporter enjoys over the actual distribution of the product. Those firms suffering the greatest from gray market activities indicated that they use commission agents and merchant distributors, e.g., entities outside of the firm's corporate family, in their export markets. Obviously, joint venture partners, wholly owned subsidiaries, and the direct sale of exports to the end user offers a greater deal of control over the final sale of the product, not to mention that joint venture partners have common objectives within the operational framework, and have profits at stake which are threatened by gray market activity, increasing their desire to see this activity limited. Commission agents

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**TABLE 1**  
**DESCRIPTIVE STATISTICS AND ZERO-ORDER PRODUCT MOMENT**  
**CORRELATIONS OF VARIABLES**

Variable	No. of Items	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. International experience	3	2.21	.71	(.71)								
2. Centralization of decisions	2	3.32	.81	-.03	(.72)							
3. Product standardization	1	2.45	.88	-.08	-.02	(n/a)						
4. Distribution control	4	4.22	.67	-.01	-.12	.12	(.70)					
5. Channel integration	5	2.15	.77	.16	.04	-.08	-.30*	(n/a)				
6. No. of markets	1	23	.65	.26**	.07	.04	.04	.02	(n/a)			
7. Market volatility	3	4.23	.80	-.08	.02	.11*	.20*	.02	.17*	(.68)		
8. Economic performance	4	4.01	2.59	-.05	-.14	.05	-.14	-.02	.05	-.01	(.83)	
9. Strategic performance	4	3.58	.61	-.07	-.03	-.05	.12	.12	.03	.07	.36*	(.74)

Numbers in parentheses on the diagonal are reliability estimates.  
 \*  $p < .05$  \*\*  $p < .01$

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TABLE 2 ORDERED LOGIT RESULTS CATEGORICAL DEPENDENT VARIABLE = DEGREE OF GRAY MARKET ACTIVITY	
Predictor Variables	Unstandardized Coefficient
Constant	4.14
International experience	.01
Centralization of decision making	.21*
Product standardization	-.48*
Distribution control	.29*
Degree of channel integration	1.81**
Number of markets	.05
Market volatility	.04
<b>Model Statistics</b>	
Log of the likelihood function = -33.67	
$X^2$ with 7 degrees of freedom = 16.57, $p = .02$	
Correct classification = 82.5%	
* $p < .05$ ; ** $p < .01$	

and merchant distributors have no such limitations, and may be more likely to sell outside of the authorized channel than other distributor types.

H4 stated that the greater the degree of centralization of management decision making, the less the degree of gray market activity. This is supported by the analysis ( $b = .21$ ,  $p < .05$ ). Managers with the most information regarding price levels and cost structures across markets are needed to coordinate activity in widely disparate markets, and these managers are generally located at the higher levels of the organization. While personnel close to the point of purchase in the export markets may be able to translate market specific issues to the export strategy, without relative knowledge, e.g., how markets compare, this is of little use in countering gray market activity.

The degree to which the product is standardized for the export market (H5) was hypothesized to have a negative relationship with gray market activity, and this is supported by the results ( $b = -.48$ ,  $p < .05$ ). Contrary to popular think-

ing, the ease of adoption of standardized products and possible reduced cross-border flow problems associated with these types of products do not enhance gray market activity. Rather, unavailability of specific types of products, those with attributes in high demand, seems to drive unauthorized channels. Also, since adaptation of products for specific markets increases costs, and therefore prices, products widely adapted for a variety of markets may also offer significant price-margin windows for gray marketers. While to many this could be counter-intuitive to the belief that global products induce gray market activity, these results may be due to our concentration on industrial goods rather than consumer products more likely to be influenced by homogenization of tastes.

International experience (H3,  $b = .01$ ,  $p > .10$ ), the number of markets serviced by the exporter (H6,  $b = -.02$ ,  $p > .10$ ), and market volatility (H7,  $b = -.04$ ,  $p > .10$ ) were found to have nonsignificant coefficients, and therefore these hypotheses are not supported.

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TABLE 3 PERFORMANCE IMPLICATIONS OF GRAY MARKET ACTIVITY			
Performance Measure	Mean	F	Significance
Economic export performance	2.30	.208	.650
Strategic export performance	3.95	6.55	.013
Overall MANOVA results: Wilke's $\Lambda = .90$ ; $F(1,63) = 3.35$ ; $p < .05$			

In order to test the performance implications of gray market activity, MANOVA was performed with gray market activity as the independent variable, and strategic export performance, and economic export performance as the dependent variables. As shown in Table 3, the results indicate significant differences in performances depending on the degree of unauthorized imports in the export market. Gray market activity exhibits a significant negative relationship with strategic export performance ( $F = 6.55$ ,  $p < .05$ ), while no significant relationship exists between gray market activity and economic performance ( $F = .208$ ,  $p > .1$ ). These results partially support H8. It is evident that the economic performance of exporters does not suffer to the degree that was expected, perhaps due to sales volume enhancement by gray market activity. However, strategic performance is detrimentally affected by unauthorized distribution. In efforts to reach distributor relationship and competitive position goals, gray markets render a restrictive environment, and are prohibitive to the achievement of strategic objectives of exporters.

#### DISCUSSION AND CONCLUSION

Despite a number of studies that offer measures to combat gray markets, as well

as those which describe the effects of unauthorized imports, little research has been conducted investigating simultaneous antecedents of gray market activity. Here, this is accomplished through the investigation of control, organizational, and market specific factors. The implications of this study counter traditional thinking regarding gray markets and export activity. For instance, market volatility, in the form of foreign currency and inflation rate fluctuations, has long been thought to be the primary driver of gray market activity. This perspective was not supported in the study. Similarly, the number of markets served and international experience of the firm were found to have insignificant relationships with unauthorized imports, which again counters the traditional thinking that the firm's internal skills accumulated through exposure to overseas markets would create an organizational environment capable of combating gray market activity. Instead, we find that antecedents centered around internal and external control, namely distribution control, integrated channels, centralization, and product standardization, are associated with low gray market activity. It is important to note, however, that gray market activity exists in markets with both low and high volatility characteris-

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tics. For example, in the European Union price fluctuations between nations are often controlled by regulations, yet gray markets still exist. It should be remembered that despite relatively stable currency relationships, the purchasing power between market members can influence the ability to pay across markets. Therefore, managers who focus solely on foreign currency volatility and inflation rates as a symptom of gray market activity may be caught unaware by cannibalized sales.

Analysis of the conceptual framework and testing of the research hypotheses allows us to expand our theoretical perspective regarding gray market issues. According to the findings, gray market activity is influenced less by market forces outside the firm, and more by control related phenomena, both internal to the firm and within the firm's distribution relationships. This, to a certain degree, is in contrast to past research, which has focused on market related factors such as foreign currency volatility and other determinants of cross-market price margins as the key drivers of unauthorized distribution. The results follow the control theorists perspective in that non-market forms of governance can effectively organize and regulate exchange conduct (Bello and Gilliland, 1997; Gunglach, 1994). Furthermore, the effects of gray market activity on the export performance of the firm are shown to detrimentally affect the strategic goals of manufacturers, while at the same time having no significant affect on the economic aspect of the venture. Again, this is an important distinction, since managers may wish to consider what degree of complex, and often costly, anti-gray market activity they undertake if the profit margins within the export market are not jeopardized.

While there are several proactive and reactive strategies used by firms to combat gray market activity, recognizing that firm sales and channel relationships are being detrimentally affected by unauthorized imports is often a nebulous task: Managers often blame gray market symptoms on economic factors within the market. With almost every manager contacted in follow-up interviews, any action taken against gray market activity was re-active rather than pro-active, taking the form of stop-gap procedures, such as price cutting or supply interference. Unfortunately, this often takes place after the firm has experienced reduced sales margins, or confrontation from its authorized distributor. On occasion, exporters have been reduced to collaborating with gray marketers by requiring that dealers purchase a fixed amount of gray market goods, this to insure that loyal clients receive the supplies they need (Cavusgil and Sikora, 1988). Instead, exporters may be able to alleviate some of the effects of gray market imports through an awareness of what constitutes a gray market environment, and by taking pro-active measures to reduce or combat these effects. Certainly this is a preferable strategy, especially when dealing with markets where long-term distributor relationships are crucial, and where a large number of competitors offer end-users the luxury of choosing reliable channel sources.

Several limitations of this study should be noted. First, in efforts to present a parsimonious model of gray market activity based upon the literature, several factors both internal and external to the organization were not explored. Further investigation is called for in order to fully understand the gray market phenomenon across all market types, as well as to understand the influence of

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differential or discriminatory pricing practices on gray market activity. Perhaps this can better be addressed through a survey of buyers or distributors rather than exporters themselves. Second, the sample used in this study consists of U.S. exporters only. Future research should examine cross-national export behavior, since firms will experience significant variance across home country markets. Finally, the concentration on manufactured goods in this study somewhat inhibits our ability to investigate the affects of brand identity on gray market activity, in that a study including consumer goods would better capture the role of brands on parallel imports. Any future study of gray market action would only benefit from this investigation.

Managers should take into account several factors when evaluating the potential of unauthorized distribution in their export markets, namely, the degree to which their product is standardized,

centralization of decision making, distribution control, and channel integration. Also, awareness of markets notorious for gray markets, and the industries and product types susceptible to this activity will assist in effective proactive rather than reactive measures by the firm. It is understood that potentially profitable markets will rarely be avoided simply on the basis of gray market threats, yet prevalent gray market activity should be an important factor when managers are developing or modifying strategies in their export markets. Clearly, several variables that affect gray markets are outside the immediate control of exporters, and there is rarely complete control over the distribution of any product. Still, managers can benefit from an understanding of this threat to export market success, and can better adopt preventative measures if the potential of that threat is known.



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## NOTES

1. The issue of price discrimination is not included in this study due to the sensitive nature of this subject with exporters. When questioned on the subject of "price differentiation" managers were *extremely reluctant* to discuss this topic. Given the Robinson-Patman Act, which is the principle legislation governing the use of price differentials, as well as the possibility of alienating suppliers, this reluctance is perhaps not surprising. While understanding that discriminatory pricing is critical to the gray market phenomenon, the problem of course is obtaining reliable and accurate assessment of discriminatory pricing practices when the sample set is one of exporters, as opposed to buyers or middlemen. Given that this sample is one of U.S. exporters, and that the preliminary interviews were somewhat restricted on this issue, no discriminatory construct was operationalized in the model, for fear of incorrectly (inaccurately) capturing this phenomenon.

2. In this study, the perspective is that of vertical integration within the export market. It is understood that, strategically, horizontal integration across markets provides another measure for control of distribution. However, the unit of analysis in this study is that of the individual product-market level, facilitating a focus on vertical rather than horizontal integration.

3. While firm size has traditionally been considered a determinant of export activity and performance, it was not included in this study since recent literature has indicated that the influence of this antecedent on export channel activity was not significant (see, Aulakh and Kotabe, 1997). While Bello and Gilliland (1997) did include firm resource factors in their study of export channel perfor-

mance, this was in the form of a Resource Inadequacy-Process Control linkage and is not relevant to our discussion of gray market antecedents.

4. It was felt that these parameters facilitated a focus on dedicated exporters, rather than those that exported occasionally and/or only to unsolicited orders. This also allowed us to center on firms that would recognize gray markets if and when they were present. Concurrently, this study focuses solely on direct rather than indirect exporters. It was felt that indirect exporting requires relatively little involvement in the target market and therefore was not appropriate for this study.

5. For example, and following the methods of Armstrong and Overton (1977), a number of t-test were performed in order to compare late and early respondents across a number of key variables, this to address possible non-response bias. These variables included firm size, industry, and age. No significant differences were discovered. The issue of common method variance was addressed in survey design. Open-ended questions were integrated throughout the survey in order to avoid repeated semantic or Likert-type scales. Also, great care was taken to vary anchors and reverse code where appropriate when utilizing scales within the survey.

6. Gray market activity was operationalized as one simple, dichotomous variable, this from a continuous, Likert-type scale of 1-7 (unauthorized imports of our product in this market are a significant problem- unauthorized imports of our product in this market are not a significant problem). From a methodological standpoint, three works on methodological applications given this approach were consulted (*Log-Linear Models and Logistic Regression 1997; Multivariate*

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*Statistical Modeling 1983*, both by R. Christensen, and *Applied Logistics Regression*, by Hosmer and Lemeshow, 1989), and the perspective was adopted that the use of logistic regression was an appropriate method "for adapting regression to a situation where the dependent variable is restricted to a finite range" (Christensen, 1997). Those respondents that answered 1 and 2 were classified as 'Low Levels of Gray Market Activity,' and were coded 1. Those respondents answering 6 and 7 were classified as 'High Levels of Gray Market Activity,' and were coded 2. Those responding 3-5 were classified as 'Intermediate Levels of Gray Market Activity' and were not included in the study in order to enhance focus on gray market action. This corresponds with the suggested approaches of the cited methodological literature. Within this classification schema, 39% of the respondents indicated low gray market activity, while 30% indicated high gray market activity (mean of the continuous 1-7 scale was 3.71). Given this distribution, the correct classification value seems to be a moderately strong predictive tool. At the suggestion of an anonymous *JBS* reviewer, in order to address concerns regarding this operationalization, two separate analyses were run to test the model and hypotheses: (i) a multinomial logit model with low gray market activity coded 1, intermediate coded 2, and high coded 3. The differences in results between this method and that adopted in the study were insignificant to the point of being almost unidentifiable. In the second analysis, (ii), the variable Gray Market Activity was left as a continuous variable and the standard multiple regression technique was used to test the model. These results indicate that there is no significant difference between this analy-

sis and the dichotomous variable technique used in the study.

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## APPENDIX

## Measurement of Variables

**International Experience:**

- 1 The number of years your firm has been conducting international business.
- 2 The number of managers whose primary responsibility is export activity.
- 3 The number of years your firm has been operating in this market.

**Centralization of Managerial Decision Making:**

- 1 Senior management has control over the management of our international opportunities: 1 (Strongly Agree)-7 (Strongly Disagree).
- 2 1. We have a highly centralized (7. de-centralized) managerial decision making process.
- 3 The extent of control by senior managers for this venture: 1. (little)-7. (substantial).
- 4 1. Our HQ makes all important decisions-7. Our HQ rarely makes important decisions.

**Product Standardization:**

- 1 Our product is standardized for this venture-7. Our product is adapted for this venture.

**Distribution Control:**

- 1 1. We have complete control over who distributes our product-7. We have no control over who distributes our product.
- 2 1. Our distributors have a high degree of control over the price of our product-7. Our distributors have no control over the price of our product.
- 3 Our product changes hands often after it arrives in the market: 1. (Strongly Agree)-7. (Strongly Disagree).
- 4 It often takes too long for our product to reach the buyer: 1. (Strongly Agree)-7. (Strongly Disagree).

**Channel Integration:** Which of the following best represents your firm's distributor (or buyer) in this export market?

- |                           |                          |
|---------------------------|--------------------------|
| a Merchant distributor    | b. Commission agent      |
| c Wholly owned subsidiary | d. Joint venture partner |
| e Direct sale to end user |                          |

**Number of Markets Served:**

1. In how many markets worldwide is your product sold?

**Market Volatility:**

- 1 1. (The foreign currency is constantly changing relative to the US dollar)-7. (The foreign currency is very stable relative to the US dollar).
- 2 1. (Often, changes in currency rates cause us to over or under price our products)-7. (Changes in currency rates are no problem in pricing our products).
- 3 1. (Inflation is a big problem in our market)-7. (Inflation is not a problem in our market).

**Gray Market Activity:**

- 1 1. (Unauthorized imports of our product in this market are a significant problem)-7. (unauthorized imports of our product in this market are not a significant problem).

**Strategic Performance:** To what degree have the following objectives been met?

- 1 Strategic expansion.
- 2 Distributor relationships.
- 3 Responding to competitive pressures.
- 4 Gaining a foothold in the market.

**Economic Performance:** Increase/Decrease in:

- 1 Sales volume.
- 2 Profit margin.
- 3 ROI.
- 4 Overall profitability.